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VARIATION OF *UTETHEISA ORNATRIX*  
(*ARCTIDAE*)

INCLUDING A NEW SPECIES FROM  
SAINT CROIX, VIRGIN ISLANDS

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SAMPLES OF *UTETHEISA ORNATRIX* L. from Saint Croix, V. I. differ from collections from Saint Thomas and Puerto Rico in frequency of fully colored forewings and reduced forewing black spotting. The *colored/unpsotted* phenotype was figured as an unnamed aberration by Moeschler (1886a, 1886b fig. 2). However, Cruzan samples collected in April 1962 included so many examples of this type that the population on Saint Croix is certainly distinct.

Four other subspecies of *Utetheisa ornatrix* have been described. The South-Central American form (*U. o. ornatrix* L.) is found from the Mexican border to Argentina and Chile and in the Galapagos Islands and the Lesser Antilles. The North American form (*U. o. bella* L.) occurs in the United States and southern Canada east of the Rocky Mountains, the Bermudas and the Bahamas. The *ornatrix* and *bella* populations overlap in Texas and some of the central United States where *ornatrix* is an occasional immigrant. The Greater Antillean population (*U. o. venusta* Dalman) occurs in Cuba, Hispaniola and Jamaica. The Puerto Rican population (*U. o. stretchii* Butler) is found on the main island of Puerto Rico.

The five characters of wing markings useful in separating the subspecies are the forewing ground color (*red, orange red, red orange, orange/yellow*), distribution of colored pigment on the

Table 1, Character frequencies in three population samples from Saint Croix, Virgin Islands collected on 24 April 1962. Sample I was a single female from a separate locality taken for breeding stock. Sample II (near Krause Lagoon) contained 26 males and 24 females; sample III (near Krause Lagoon) contained 27 males and 25 females; sample IV (Agricultural Experiment Station Kings Hill) contained 32 males and 29 females. Two specimens in sample II could not be classified for distribution of forewing color.

	<u>II</u>	<u>III</u>	<u>IV</u>	<u>Total</u>
<u>Distribution of Forewing Color</u>				
Sample size n	48	52	74	174
Colored	.958	.923	.932	.937
Streaked	.021	.058	.027	.034
Intermediate	.021	.000	.027	.017
White	.000	.019	.014	.011
<u>Forewing Black Spotting</u>				
Sample size n	50	52	74	176
Spotted	.080	.000	.040	.040
Unspotted	.920	1.000	.960	.960
<u>Hindwing Black Markings</u>				
Sample size n	50	52	74	176
Wide	1.000	1.000	1.000	1.000
Semi	.000	.000	.000	.000
Narrow	.000	.000	.000	.000
<u>Hindwing Ground Color</u>				
Sample size n	50	52	74	176
Red	.000	.000	.000	.000
Pink	.020	.000	.000	.006
Flush	.100	.000	.014	.034
White	.880	1.000	.986	.960

forewing (*colored, streaked, intermediate, white*), forewing black spotting (*spotted, unspotted*), hindwing black markings (*wide, narrow, semi*) and hindwing ground color (*red, pink, flush, and white*). A comparative study of variation in the *Utetheisa ornatrix* complex will appear elsewhere (Pease, 1966a).

### UTETHEISA ORNATRIX SAINT-CROIXENSIS Pease, Jr.,

#### New Subspecies

Male. Forewing ground color *red*. Ground color extends throughout forewing except for black spots surrounded by white (*colored*). Red ground color replaces the seven rows of black on white spots on the interior of the forewing (*unspotted*). The rows of spots are interrupted and restricted to the margins of the wing. The hindwing has white ground color with a thick black margins indented by white between  $M_3$  and  $Cu$ . A black band joins the anterior margin to the black border (black markings *wide*). Hindwing appears pink anterior to vein  $M_1$ .

Female. Resembles the male except that the hindwing black markings have a cellular bar and dash to the base of the wing.

Population. Frequency of *colored* forewing is distributed about the mean .937. Frequency of *unspotted* forewing is distributed about the mean .960 (table I). Extra black and white spots may appear on the forewing. Hindwing black markings vary in size, and in the female the dash may be missing.

Described from 173 specimens (85 males and 88 females). 102 of these (51 males and 51 females) were collected in open fields in association with *Crotalaria retusa* L. on 24 April 1962 in the vicinity of Krause Lagoon, Saint Croix, Virgin Islands (Samples II and III, Table I). 74 (32 males and 29 females) were collected on the same date in the cultivated collection of *Crotalaria* at the Agricultural Experiment Station, Kings Hill near Christiansted, Saint Croix. The series have been retained intact in the collection of the author.

The typical Cruzan phenotype (*red/colored/unspotted/wide/white*) is found, rarely, on mainland Puerto Rico and the off-shore island of Vieques and in the Virgin Islands other than Saint Croix. However, the high frequencies of *colored* forewing and *spotted* forewing are unique to Saint Croix. Other phenotypes occur there. Some Cruzan specimens resemble the common Puerto Rican phenotype (*U. O. stretchii*).

Since the subspecies is a population concept, differences in character frequency govern population distinctness rather than strict uniformity of individuals (Mayr, 1963 p. 348). A population description giving diagnostic population characteristics follows the description of male and female. Since the population is dynamic in time, the data must be referred to the day of collection, 24 April 1962. Other characters may be important either in morphology or at the biochemical level, and since type series once separated seldom find their way together again, all specimens have been kept at a unit. The dedicated field biologist will readily duplicate the samples on a weekend collecting trip to Saint Croix.

The typical *saint-croixensis* phenotype may be considered a combination of the *red/colored* forewing of *venusta* and the *unspotted* forewing and *wide/white* hindwing of *ornatrix*. Laboratory crosses suggest that *U. o. stretchii* and *U. o. saint-croixensis* are of hybrid origin (Pease, 1966b).

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